Zoning and the Law • Productive Sc-

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AMERICAN CITY & COUNTY®

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Reducing Groundwater Contaminants

How Low?

AMERICAN CITY & COUNTY®

January 1988 Vol. 103, No. 1

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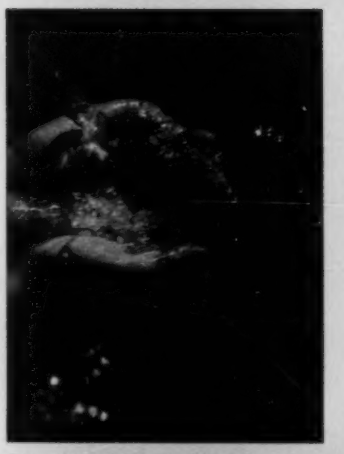
Cover photography by Jerry Hoy/Double Vision, Atlanta



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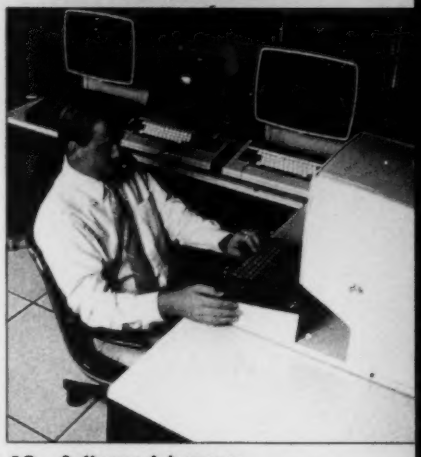

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New Concerns for an Old Problem

How clean is clean? How low should you go in eliminating contaminants in drinking water? Those are difficult questions for today's water-works professional, and for that person's supervisors up the decision-making chain. Providing the purest possible drinking water for the general public was a concern of *American City & County* readers 70 years ago as well, although then typhoid and other contagious diseases were the main problem, not contaminants called volatile organic compounds measured in parts per billion.

World war was the big news in January 1918 and *The American City* that month focused on how cities were helping the war effort. Water concerns then centered not so much on quality (that changed dramatically in the early 1920s — more later) but on conservation. "Save Coal By Reducing Water Consumption," one headline read that January.

Coal was needed to keep the factories going, churning out weapons and supplies for the boys overseas. Lower water consumption meant less coal used for purification. One way to reduce water use was by monitoring it with meters, a method touted in this magazine. "The great source of saving in every case seems to be the installation of meters, so that the householder may know how much water he uses and may realize that he is wasteful, and therefore will start a conservation program in his own house."

Water supply was big business in those days, much as it is today. Advertisements in *The American City* extolled the virtues of meters, valves, pipes, trucks and other related equipment. Ford Meter Box of Wabash, Ind., claimed "Jack Frost can't damage this meter," and The Chapman Valve Manufacturing Co. of Indian Orchard, Mass., sold "Everything for water works and sewage disposal but the pipe."

Pipe suppliers were plentiful in these pages. There was U.S. Cast Iron Pipe and Foundry ("The pipe that outlasts the ages."), then of Burlington, N.J., Central Foundry Co. of New York, Lynchburg Foundry of Chicago, and American Cast Iron Pipe of Birmingham, Ala. Wooden pipes also were popular at the time, some made of redwood, and used as sluiceways for hydroelectric facilities.

Meter advertisements were plentiful, including Buffalo Meter, Pittsburgh Meter, Union Water Meter of Worcester, Mass., and, of course, Badger Meter of Milwaukee and Neptune Meter, then of New York. Badger ads plugged "The meter that gives absolute satisfaction," while Neptune promoted its Trident meters as fuel conservers.

Other ads touted drinking-water fountains (The Casey Hedges Co. of Chattanooga, Tenn.), chlorine (Wallace & Tiernan of New York), and flowmeters (The Pitometer Co. of New York — "Buffalo Saves $3,000 a Month In Fuel By Stopping Water Waste").

Within three years, the emphasis had changed from conservation to purification. As one article stated, "The persons immediately responsible for the operation of water purification works should stop to ponder over the fact that they are depended upon to protect the lives and health of their consumers and that if they fail it is as though they took deliberate steps to bring physical injury on their consumers."

All of this to say providing safe and pure drinking water always has been a prime responsibility of local government. Today, the emphasis is changed. Typhoid has been eradicated in U.S. water systems, with today's problems requiring far-more advanced technology to eliminate cancer-causing compounds measured in parts per billion. Soon, laboratory techniques may result in requirements to reduce these contaminants in terms of parts per trillion.

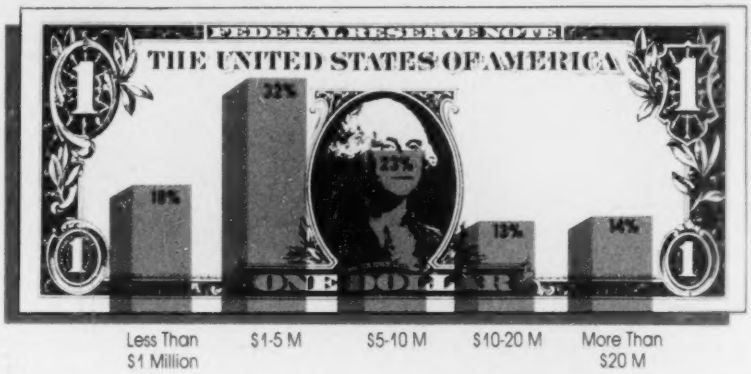
What does this increasing preciseness mean to water-works officials and local-government policy makers? Is there an economic dividing line, whereby a tradeoff in future cancer deaths is made instead of going to the next, more expensive treatment technology? These are tough decisions for today's public officials and are the focus of this month's cover story.

When *American City & County* and Hydro Group brought together 18 water-supply experts during the Water Pollution Control Federation's annual conference for a roundtable discussion of groundwater contamination, the conversation centered around these questions. There was no consensus among the participants, although the general feeling seemed to be that we have to consider the economic implications of ever-more finite testing capabilities and the resulting lower standards for contaminants. We can clean the water to whatever standards are set, although perhaps not to zero, the group concurred. But is the cost worth the result? □

— Ken Anderberg

SURVEY SPOTLIGHT

In total dollars, how much will you need to construct new infrastructure facilities?



*Percent of communities surveyed. Base = 211

SOURCE: AC&C Survey of Issues and Trends

have lost population and new development to surrounding suburbs might consider the Pittsburgh tax system. "It may depend on the circumstances of the individual city," Bourassa says, "but it appears to be effective in encouraging development in large, older cities like Pittsburgh."

Consulting Engineers Face Record Lawsuits

Claims brought against consulting engineering firms increased by 39 percent in 1987, but nearly 40 percent were settled without any payment to the claimant, according to the results of the American Consulting Engineers Council's (ACEC) ninth annual professional liability insurance survey.

ACEC estimates its 5,000 member firms paid nearly $250 million for professional liability insurance in 1987, but the dramatic and continuing increase in "frivolous suits is almost as heavy a burden for member firms," according to Bob Fogle, ACEC's director of liability issues. "The cost of settling claims is nearly as much of an economic hardship as paying the premiums," he says.

The survey also indicates preparation and defense costs can be sizable. The average claim costs a firm $8,200 to defend under the deductible and a firm expends 136 hours in personnel time per claim. Even in frivolous suits — those dismissed or settled with no payment to the claimant — firms paid an average of $6,800 in defense costs and wasted 166 hours of employee time per claim in 1987. "Time is money in the engineering profession," Fogle says. "Those wasted hours might otherwise be billable. Frivolous suits sap a firm of profits."

Government Projects Receive Ford Grants

Ten imaginative state and city government projects, covering a broad range of issues from wastewater treatment to prison reform, were named winners in the Innovations in State and Local Government Awards program, sponsored by the Ford Foundation, New York, and the John F. Kennedy School of Government at Harvard University. Winners receive a $100,000 grant from the foundation to strengthen and replicate the programs.

The winners include: Arcata, Calif., for its integrated wetland-enhancement and salmon-ranching program; Georgia for its state penal plan; Illinois' "Parents Too Soon" program, started to reduce the incidence and mitigate the adverse consequences of teen pregnancy; Duluth, Minn., for its domestic-abuse intervention program; St. Louis for a homeless-services network and its "Parents As Teachers" program; and New York City's Nova Ancora project, which creates jobs for unskilled probationers in small businesses and light industry.

Other winners are: North Carolina for the Open Public Events Network, which includes live television interviews and state-government hearings; Dallas' "Vision Through Diversity" program, which improves access to recreational programs for the disabled, minorities and low-income families; and Fort Worth, Texas, for a water-pollution control plan that measures pollution in runoff from the city's storm drains.

"Clearly, many of the most imaginative government initiatives are coming from the state and local jurisdictions," says Franklin Thomas, president of the Ford Foundation. "The projects and individuals we have honored are dealing with some of society's toughest and most intransigent issues in ways that are truly new."

Drinking Water Group To Meet

The Association of State Drinking Water Administrators (ASDWA) will conduct its annual conference Feb. 22-25 in Charleston, S.C. The theme of the program is "Challenges of SDWA Implementation." Lee Thomas, administrator of the U.S. Environmental Protection Agency, is scheduled to give the keynote address.

More than 30 technical sessions are included in the preliminary program. Sessions will cover risk management and communications, status of the Safe Drinking Water Act's implementation, the growing importance of monitoring, analytical methods and laboratory certification, and state initiatives.

For more information, contact ASDWA, 1911 N. Fort Myer Drive, Arlington, Va. 22209, (703) 524-2428.

NORTHEAST

Fall River Refurbishes Public-Housing Project

By 1985, the William Street Apartments in Fall River, Mass., faced problems similar to many other public-housing projects built in the early 1970s. Although fast, economical construction solved an immediate need for public housing, water leakage and air-infiltration problems began soon after the building was finished.

"The building was designed around a reinforced-concrete platform system," recalls architect Irven Goodman. "Leaking at the floor slabs made some of the apartments uninhabitable. The problem was worsened by the fact the building sits off the Taunton River, subjecting it to heavy winds and rains."

Goodman and the Fall River Housing Authority (FRHA) considered several exterior insulation and finish systems, finally opting for a hard finish system from Insul/Crete Co., Madison, Wis., which is associated with Dow Chemical Co.

"We were looking for a system that would act as a 'raincoat' for the building," says Goodman. Since the building previously was uninsulated, thermal performance also was important. A double-coated, reinforced fiberglass mesh was installed directly over the insulation. The contractor then troweled on a base coat of polymer-modified

MUNICIPAL COST INDEXES

Three of the four monthly increases showed gains from December, with the **Consumer Price Index** and the **Producer Price Index** jumping 0.3 percent. The **Municipal Cost Index** saw a 0.1-percent gain, marking 15 consecutive months the index has risen. The **Construction Cost Index** began 1988 with a 0.2-percent drop from last month's 388.6.

HVAC controls read 131.7, a 0.3-percent increase over December, while fans saw a 0.3-percent drop. Flow instruments increased 0.2 percent since last month, to 241.0, and transformers entered the new year at 240.3.

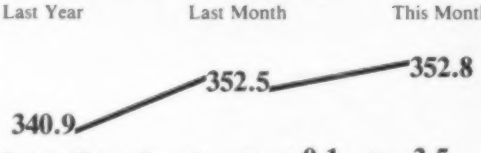
— Compiled by Tim Darnell

THIS MONTH'S MARKETBASKET

	Current Index	Percent Change From: Last Month	Last Year
Air Conditioners	150.8	0.3	1.1
Apparel	217.9	0.6	−0.5
Asphalt Roofing	378.6	1.6	−0.6
Chemicals, Industrial	340.8	1.5	7.2
Coal	511.4	−0.3	−4.8
Concrete Products	326.1	0.1	0.5
Construction Machinery	375.8	0	2.4
Diesel Fuel	477.0	4.0	42.3
Electric Components	202.9	0.4	0
Electric Lamps	351.7	0.3	1.2
Electric Power	449.0	−3.5	−0.5
Engines, I.C.	359.4	0.3	1.6
Fans, Blowers	368.3	−0.8	−0.1
Fertilizers, Mixed	269.4	2.4	9.0
Floor Coverings	201.6	0.5	2.1
Flow Instruments	241.0	0.2	1.6
Footwear	271.8	0	3.2
Foundry Products	366.8	0.2	1.4
Fuel Oil No. 2	489.6	5.4	33.4
Furniture	329.3	0.4	2.9
Gasoline	402.3	−1.6	29.4
Generator Sets	361.8	0.6	2.6
Glass	241.0	1.1	3.7
Glass Containers	401.3	0	0.2
Gypsum Products	306.0	0.8	−10.8
Hardware	308.6	0	3.9
Heating Equipment	274.5	0.4	1.3
HVAC Controls	131.7	0.3	−0.2
LP Gas	372.1	−4.0	19.1
Lubricants	349.2	1.6	−2.0
Lumber	379.6	−4.2	8.5
Metal Fabrications	326.2	0.9	3.4
Millwork	334.2	0.4	4.4
Motor Vehicle Parts	361.8	0.6	2.6
Mowers	267.0	−0.1	1.1
Natural Gas	1045.6	−2.7	−3.9
Office Machines	159.9	0.1	3.2
Paint	334.7	1.6	8.2
Paper	324.9	1.1	4.7
Passenger Cars	251.7	9.7	0.8
Plumbing Fixtures	335.6	0	3.9
Plywood	242.7	−2.6	2.6
Portland Cement	347.0	0	−1.3
Residual Fuel	612.7	−5.2	35.1
Sand, Gravel	330.1	0.1	3.4
Sanitary Papers	388.5	−0.1	1.3
Soaps, Detergents	279.7	0.5	1.8
Sporting Goods	210.9	0.5	1.6
Steel Mill Products	366.2	2.5	4.4
Struc. Clay Products	319.6	0.3	2.5
Switchgear	291.3	−0.3	1.8
Tires, Tubes	232.8	0.3	−0.3
Transformers	240.3	−0.1	2.8
Trucks	334.8	−0.3	−3.5
Valves	109.5	0.6	2.0
Wire, Cable	223.0	0.7	8.4
Wiring Devices	388.7	0.7	2.7

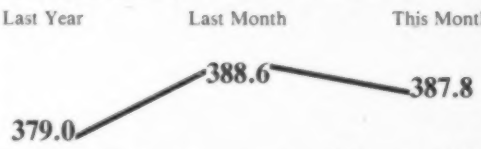
At-A-Glance Changes

MUNICIPAL COST INDEX



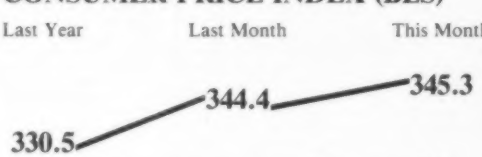
Percent Change From Last: Month **0.1** Year **3.5**

CONSTRUCTION COST INDEX



Percent Change From Last: Month **−0.2** Year **2.3**

CONSUMER PRICE INDEX (BLS)



Percent Change From Last: Month **0.3** Year **4.7**

PRODUCER PRICE INDEX (BLS)

Percent Change From Last: Month **0.3** Year **4.4**

These figures are calculated on a base year of 1967.

QUARTERLY MUNICIPAL TRENDS

	Current Level	Percent Change From: Last Qtr.	Last Year
Receipts	634.8B	.9	7.8
Federal Grants	104.1B	6.6	−10.9
Durable Purchases	23.6B	3.1	9.8
Consumables	37.6B	2.7	−6.0
Services	387.4B	2.3	8.0
Structures	64.6B	−2.7	16.2
Salaries, Wages	309.8B	2.3	6.0
Surplus	59.4B	−7.7	1.0
Employment	13.999M	−.4	2.7